## PATENT COOPERATION TREATY

| From the INTERNATIONAL SEARCHING AUTHORITY   |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|
| To:<br>ALSTON & BIRD LLP<br>JASON P. COOPER  |  |  |  | PCT  |  |  |  |  |  |
| BANK OF AMERICA PLAZA 101 SOUTH TRYON STRET, SUITE 4000 CHARLOTTE, NC 28280-4000   |  |  |  |  | ITTEN OPINION OF THE<br>DNAL SEARCHING AUTHORITY |  |  |  |  |
|  |  |  |  |  | (PCT Rule 43bis.1)                               |  |  |  |  |
| ·  |  |  |  | Date of mailing (day/month/year) 06 JUL 2005 |  |  |  |  |  |
| Applicant's or agent's file reference  |  |  |  | FOR FURTHER ACTION See paragraph 2 below     |  |  |  |  |  |
| 000100.00  | 23PCT<br>nal application No  |  | International filing date                  | (day/month/year)                             | Priority date (day/month/year)                   |  |  |  |  |
|  |  | •  | International filing date (day/month/year) |  | 07 August 2003 (07.08.2003)                      |  |  |  |  |
| PCT/US04/25682 International Patent Classification (IPC)   |  |  |  |  |  |  |  |  |  |
| IPC(7): A61M 29/00 and US Cl.: 606/108, 623/1.12   |  |  |  |  |  |  |  |  |  |
| Applicant  |  |  |  |  |  |  |  |  |  |
| ALVELUS  | S, INC.  |  |  |  |  |  |  |  |  |
| 1. This opinion contains indications relating to the following items:  |  |  |  |  |  |  |  |  |  |
| $\boxtimes$  | Box No. I Basis of the opinion   |  |  |  |  |  |  |  |  |
|  | Box No. II Priority  |  |  |  |  |  |  |  |  |
|  | Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |  |  |  |  |  |  |  |  |
|  | Box No. IV   | Lack of unity of invention   |  |  |  |  |  |  |  |
|  | Box No. V  | Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |  |  |  |  |  |  |  |
|  | Box No. VI   | Certain documents cited  |  |  |  |  |  |  |  |
|  | Box No. VII  | . VII Certain defects in the international application   |  |  |  |  |  |  |  |
|  | Box No. VIII Certain observations on the international application   |  |  |  |  |  |  |  |  |
|  | THER ACTIO   |  |  |  |  |  |  |  |  |
| If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1 bis(b) that written opinions of this International Searching Authority will not be so considered. |  |  |  |  |  |  |  |  |  |
| If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.  |  |  |  |  |  |  |  |  |  |
| For further options, see Form PCT/ISA/220.   |  |  |  |  |  |  |  |  |  |
| 3. For further details, see notes to Form PCT/ISA/220.   |  |  |  |  |  |  |  |  |  |
|  | mailing address o  |  | 3  | Authorized office                            | Trace North                                      |  |  |  |  |
| Mail Stop PCT, Attn: ISA/US Commissioner for Patents   |  |  |  | Michael Thale                                | 1 and your                                       |  |  |  |  |
| P.O. Box 1450<br>Alexandria, Virginia 22313-1450   |  |  |  | Telephone No. (7                             | (03) 308-0858                                    |  |  |  |  |
| Facsimile 1  | No. (703) 305-323  | 30   |  | Telephone 140. (/                            | /  |  |  |  |  |
| Form PCT/ISA/237 (cover sheet) (January 2004)  |  |  |  |  |  |  |  |  |  |

## WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/US04/25682

| Box No. I Basis of this opinion   |  |  |  |  |  |  |  |
|---|--|--|--|--|--|--|--|
| 1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it   |  |  |  |  |  |  |  |
| was filed, unless otherwise indicated under this item.  |  |  |  |  |  |  |  |
| This opinion has been established on the basis of a translation from the original language into the following language which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).  |  |  |  |  |  |  |  |
| 2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:   |  |  |  |  |  |  |  |
| a. type of material   |  |  |  |  |  |  |  |
| a sequence listing  |  |  |  |  |  |  |  |
| table(s) related to the sequence listing  |  |  |  |  |  |  |  |
| b. format of material   |  |  |  |  |  |  |  |
| in written format   |  |  |  |  |  |  |  |
| in computer readable form   |  |  |  |  |  |  |  |
| c. time of filing/furnishing  |  |  |  |  |  |  |  |
| contained in international application as filed.  |  |  |  |  |  |  |  |
| filed together with the international application in computer readable form.  |  |  |  |  |  |  |  |
| furnished subsequently to this Authority for the purposes of search.  |  |  |  |  |  |  |  |
|   |  |  |  |  |  |  |  |
| In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished. |  |  |  |  |  |  |  |
| 4. Additional comments:   |  |  |  |  |  |  |  |
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Form PCT/ISA/237(Box No. I) (January 2004)

## WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No. PCT/US04/25682

| Box No. V Reasoned statement under Rule 43 bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |        |              |      |  |  |  |  |
|---|--------|--------------|------|--|--|--|--|
| 1. Statement  |        |              |      |  |  |  |  |
| Novelty (N)   | Claims | 1-86         | YES  |  |  |  |  |
| 210.113, (2.7)  | Claims | NONE         | _NO  |  |  |  |  |
| Inventive step (IS)   | Claims | 33-60, 84-86 | _YES |  |  |  |  |
| • , ,   | Claims | 1-32, 61-83  | _NO  |  |  |  |  |
| Industrial applicability (IA)   | Claims | 1-86         | _YES |  |  |  |  |
|   | Claims | NONE         | _NO  |  |  |  |  |
| 2. Citations and explanations:  |        |              |      |  |  |  |  |

Claims 1-32 and 61-83 lack an inventive step under PCT Article 33(3) as being obvious over Mathis (6,599,314). Mathis discloses tube 100, wherein the passsageway within the tube 100 is obviously a cavity. As to claim 61, for example, it would have been obvious to use a self-sealing membrane with the tube 100 since such membranes are old and well known.

Claims 33-60 and 84-86 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest the combination of an outer tubular member with grooves and tracks having tabs slidably coupled therein.

Claims 1-86 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

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